

REMARKS

Summary

This Amendment is responsive to the Office Action mailed on October 2, 2002. Claims 1-24 are pending.

As a preliminary matter, Applicants respectfully request that the Examiner acknowledge Applicants' priority claim in the next Official Communication. Applicants' priority documents were submitted with the application on September 25, 2001.

The Examiner has objected to the title of the application as not descriptive of the invention. The title of the application is amended herein in accordance with the Examiner's requirement.

Claims 1, 3, 11-14 and 23 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Guckel (US 6,087,743).

Claims 4-10, 15-22, and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Guckel in view of Penney, Jr. (US 3,444,460).

Applicants respectfully traverse these rejections in view of the following comments.

Discussion of the Present Invention

Pending claim 1 is drawn to an inductive sensor comprising:

- at least one sensor coil in the form of a structured, conductive layer of a carrier board;

- an evaluation circuit comprising a printed circuit board with conductor tracks provided thereon and being connected to the sensor coil;

- wherein the carrier board carrying the sensor coil is mechanically rigidly and electrically connected to the printed circuit board by at least two soldered joints.

The two soldered joints of the present invention are adequate to not only connect the sensor coil electrically to the printed circuit board, but also to simultaneously establish a mechanical connection between the sensor coil (which is a flat coil in the form of a structured, conductive layer) and the printed circuit board. Thus, the sensor coil and the printed circuit board form a unit for joint handling and insertion into a sensor housing in the course of a further manufacturing process (see, e.g., Applicants' specification, page 2, second paragraph).

With Applicants' invention, considerable cost advantages are achieved since there is no longer any need for flexible electrical lines to be individually handled and soldered or for a sensor coil and printed circuit board to be mechanically positioned. In accordance with the present invention, an electrical connection is simultaneously made by at least two mechanically rigid soldered joints.

Discussion of Guckel

Guckel discloses a mechanical actuator positioning system and a positioning controller for a mechanical actuator system.

Guckel does not disclose or remotely suggest an inductive sensor. Moreover, the coils 30 and 55 of Guckel are coils wound around a central core portion of a mandrel 26 (Col. 4, lines 13-16). Therefore, Guckel does not disclose or remotely suggest a sensor coil in the form of a structured, conductive layer of a carrier board, as claimed by Applicants.

Further, Guckel does not disclose or remotely suggest that the carrier board carrying the sensor coil is mechanically rigidly and electrically connected to a printed circuit board by at least two soldered joints as set forth in Applicants' claims. In contrast, the mandrel 26 of Guckel has end sections 27 with pegs 28 formed thereon by which the mandrel engages fixed sections 24 of a core formed on a substrate 21 (Col. 4, lines 11-13). The mandrel 26 and the fixed core sections 24 are formed of ferromagnetic metal (Col. 4, lines 17-18). The magnetic core 23 may form a magnetic yoke. However, it is evident that the mandrel 26 carrying the sensor coils 30 and 55 (which coils do not comprise a carrier board having a structured, conductive layer) is not electrically connected to a printed circuit board by at least two soldered joints. The magnetic core does not comprise a circuit board.

Therefore, Guckel is far removed from the subject matter of Applicants' invention.

Discussion of Penney

Penney discloses a probe for measuring the electrical conductivity of matter. A spiral coil 26 is provided which is protected by a Faraday shield 32 (Col. 4, lines 19-24).

An insulating layer provides mechanical support for a central conductor 50 (Col. 4, lines 70-75). The central conductor 50 is a coaxial conductor (Col. 5, lines 10-14).

Therefore, Penney does not disclose an inductive sensor. Further, Penney does not disclose or remotely suggest that the carrier board which carries the sensor coil is mechanically rigidly and electrically connected to the printed circuit board by at least two soldered joints, as set forth in Applicants' claims. In contrast, the layer 48 of Penney which provides mechanical support for the central conductor 50 is an insulating layer.

Applicants respectfully submit that the present invention is not anticipated by and would not have been obvious to one skilled in the art in view of Guckel, taken alone or in combination with Penney or any of the other prior art of record.

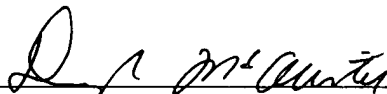
Further remarks regarding the asserted relationship between Applicants' claims and the prior art are not deemed necessary, in view of the foregoing discussion. Applicants' silence as to any of the Examiner's comments is not indicative of an acquiescence to the stated grounds of rejection.

Withdrawal of the rejections under 35 U.S.C. § 102(b) and 35 U.S.C. § 103(a) is therefore respectfully requested.

Conclusion

The Examiner is respectfully requested to reconsider this application, allow each of the pending claims and to pass this application on to an early issue. If there are any remaining issues that need to be addressed in order to place this application into condition for allowance, the Examiner is requested to telephone Applicants' undersigned attorney.

Respectfully submitted,



Douglas M. McAllister
Attorney for Applicant(s)
Registration No.: 37,886
Law Office of Barry R. Lipsitz
755 Main Street
Monroe, CT 06468
(203) 459-0200

ATTORNEY DOCKET NO.: HOE-649

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